TS

| | 7 | | TS | |
|---|--|--|---|---|
| DEST OF UPA TU AND MILLAN CERVICES | <u>. </u> | | F A | |
| PUBLIC HEALTH SERVICES | ì | OR A VARIANCE | Form Appi oved No. 57R0068 | |
| | i e | 040.11 (c) FOR A | | |
| FOOD AND DRUG ADMINISTRATION | 1 | SHOW, DISPLAY EVICE | DOCKE' NUMBER | |
| NOTE: No laser light show or display device may | | | | |
| INSTRUCTIONS 1. Check all applicable boxes and type or print the re 2. Submit an original and four (4) copies | | fail your application to the He | ,5800 Fisher Lane, Rockville, MD 20857 | |
| 1. NAME OF COMPANY | · . | | | |
| Family Bowling Co | enter | | | |
| 2. ADDRESS OF COMPANY (Include ZIP Code) | | | | |
| 3539 5th Auc South | | | 5. Date of SUMULE NO. | |
| 3. NAME OF RESPONSIBLE PERSON | 1. TELEPHONE NO. (Inc | | P/ = (00 | |
| Kick Harryton | | 7664 | 3/1/ | |
| The applicant requests the variance to be in effect to a variance for only two years. If a langer period is re- | | | | |
| | KUDUCT DESCRIP | | | |
| 4. LIST NAME AND MUDEL NUMBER(3) | | | | |
| Lowell Products Deve | lopment(LPD) 40 |)කප ට පිරයක100MW ටු- | -beam, Nova 3.0, Nova 50 | |
| b. PROLUCT FOR WHICH A VARIANCE IS PECULE | ETED | | D TO BE VOLD AT ANY ONE LOCATION | |
| A LASER DISPLAY DEVICE | | MORE THAN 15 DAYS | | |
| A LASEK LIGHT SHOW UTHER (Specify) | | LESS THAN 5 DAYS | | |
| | • | A TOUR IS INTENDED TO |) PIIN EOP | |
| g. Tour is intended to run for more than 8 mun1hs | | | | |
| OTHER LASER LIGHT SHOW PRODUCERS d. PRODUCT IS INTENDED FOR USE IN A | | LESS THAN 1 MONT | н | |
| PLANETARIUM OR OTHER DOME PROJECTION THEATER | N STRUCTURE | OTHER (Specify) | | |
| DISCOTHEQUE OR NIGHT CLUB | | | | |
| PAVILION | | | HE FOLLOWING LASER EFFECTS | |
| INDOOR ARENA OUTDOOR ARENA | | # FRONT SCREEN PRO | SECTIONS . | |
| OUTDOOR ENCLOSED AREA | | HOLOGRAPHIC DISH x MULTIPLE REFLECT | CAYS ONS (multiple channels or diffraction effects) | |
| X OTHER (Specify) Bowling Center | | AUDIENCE SCANNING | | |
| 3 | | MIRRORED SUNFAC | i stationary mirror(s) or Jes | |
| AT ONLY ONE (Most) LOCATION | anent location | | ATION OF ROTATING MIRROR BALL(\$) | |
| AT A VARIETY OF (New) LODATIONS | 1 | | IUN UF KUILTING MIRKOR BALL(S) | |
| OTHER (Specify) | | ★ FIBER OPTIC PROJE ★ FOY2, SMOKE OR OTHER | CTIONS HER SCATTERING EFFECTO | |
| | | OTHER (Specify) | | |
| _ | | | | |
| 8. LASER MEDIUM(Ar, He-Ne, etc.) | I ARFR RADIA WAVELENGT | | PEAK POWER (Watts) | |
| Argon | 455-514 nm | | 2 V/atts | |
| Argon / Krypton | 455-670 nm | | 500 mW | |
| Nd/YAG | 532 nm | | 5 Watts | |
| D. IF ANY LASER RADIATION ID PULOED OR SCANI | IED. GIVE THE PULSE DI | INATION AND KATE AND S | CANNING FF EQUENCY AND | |
| Scanned: D.C. to 500 Hz Am | plitude: 60 deg., pea | k to peak | | |
| 10. REASON FOR REQUESTING VARIANCE | | | | |
| COMPLIANCE WITH THE LIMITS OF 21 CFR COMPLIANCE WOULD LIMIT THE OUTPUT P | 1040,11(c) WOULD REST | RICT THE INTENDED USE | OF THE PRODUCT BECAUSE | |
| Sufficiently visible | | INAL INC DESIRED EFFE | >12 AAONTD AOT RE | i |
| OTHER OR ADDITIONAL EXPLANATION (Spa | offy) | | | |

FORM FDA 3147 (3/87)

00V-1465

| MANNER IN WHICH IT IS PROPOSED TO DEVIATE FROM THE REQUIREMENTS OF THE APPLICABLE STANDARD |
|--|
| XIT IS PROPOSED TO DEVIATE FROM THE PROVISIONS OF 21 CFR 1040.11 (c) IN THAT THE ACCESSIBLE MISSION LEVEL WOULD |
| EXCEED THE ACCESSIBLE EMISSION LIMITS OF CLASS I OR CLASS II |
| IT IS PROPOSED TO DEVIATE FROM THE PROVISION OF 21 CFR 1040.11 (c) AS FOLLOWS: |
| |
| |
| 12. ADVANTAGES TO BE DERIVED FROM SLICH DEVIATION |
| X CASEN LIGHT SHOWS AND DISPLAYS ARE ACCEPTED POPULAR MEMIA IN ENTERTAINMENT AND THE ASTE. USE OF POWER LEVELS IN EXCESS OF THE LIMITS IMPOSED BY AS OFF 1040-11 (A) TO RECESSION FOR ACCESSION FOR THE LIMITS IMPOSED BY AS OFF 1040-11 (A) TO RECESSION FOR ACCESSION FOR THE LIMITS IMPOSED BY AS OFF 1040-11 (A) TO RECESSION FOR ACCESSION FOR THE LIMITS IMPOSED BY AS OFF 1040-11 (A) TO RECESSION FOR THE RESPONDED FOR THE LIMITS IMPOSED BY AS OFF 1040-11 (A) TO RECESSION FOR THE RESPONDED FOR THE LIMITS IMPOSED BY AS OFF 1040-11 (A) TO RECESSION FOR THE RESPONDED FOR TH |
| MEDIA |
| |
| PURE ALL PARTY AS A SAME AND ADDRESS OF THE PROPERTY OF THE PR |
| a. X ALL LASER PRODUCTS, SYSTEMS AND PROJECTORS WILL BE CERTIFIED TO COMPLY WITH 21 CFR 1040.10 AND THE CONDITIONS |
| OF THIS VARIANCE AND WILL BE REPORTED AS REQUIRED BY 24 CFR 1002.10 AND 1002.12 USING THE REPORTING CUIDES PRO- |
| VIDED FOR SUCH PURPOSE. THESE ACTIONS WILL BE ACCOMPLISHED PRIOR TO ANY INTRODUCTION ITITO COMMERCE. |
| THE SELECTION OF THE SE |
| b. X EFFECTS NOT SPECIFICALLY INDICATED IN THIS VARIANCE APPLICATION WILL NOT BE PERFORMED, NO OTHER EFFECTS WILL DE |
| APPLICADE, HAVE DEEM GUEMIT IED. |
| |
| A TOURNAL DESIGNESTIONESTICATIONEST VARENCEMENT AND LARGET SCREENS. |
| |
| ABOVE ANY SURFACE UPON WHICH PERSONS OTHER THAN OPERATORS, PERFORMERS, OR EMPLOYEES ARE PERMITTED TO |
| ABOYE ANY SURFACE UPON WHICH PERSONS OTHER THAN OPERATORS, PERFORMERS, OR EMPLOYEES ARE PERMITTED TO |
| OR 2.5 METERS RELOW OR IN LATERAL GEDARATION FROM ANY BLACK INJURIES CHOOK OF AGE AND INCOME. TO A PER |
| CHERATARA SERVICE CONTROL OF THE SERVICE CONT |
| • A ANY PRODUCT WITHOUT OF TO ASANNING TO MEET ACCEPTS, EXCERNING, VICINGALUM, MARCHING AND AND PROPERTY A |
| PRECLUDE EXCELLENCE THE APPRICACE LIMIT. |
| T Y ALL LADED LIGHT SUMAIO BUALL SK UNDED THE DIDERT AN DEPOCALL CONTROL OF TRANSPORT |
| 1. X ALL LASER LIGHT SHOWS SHALL BE UNDER THE DIRECT AN PERSONAL CONTROL OF TRAINED, COMPETENT OPERATOR(S). THE OPERATOR(S) WILL: |
| OF ENTONIO, WILL |
| (1) IMMEDIATELY TERMINATE THE EMISSION OF LIGHT SHOW RADIATION IN THE EVENT OF ANY UNDAFF CONDITION. |
| SO AN ACCOUNT VALUE OF THE PROPERTY OF THE PRO |
| |
| |
| TUR FRE AFFIREN SYSPERALE LEVELES IN THE CONTROL OF THE PROPERTY OF THE PROPER |
| BE PROVIDED AS AN INHERENT PART OF THE SYSTEM DESIGN TO PREVENT OVERFILLING OF SCREENS BEAM STOPS, TARGETS, |
| ETC. |
| |
| 1. X LASER PROJECTORS WILL NOT BE DELIVERED TO ANY OTHER PARTY LINDER AN AGDIEMENT OF SALE, LEASE, OR LOAD UNLESS |
| LASER PROJECTORS WILL NOT BE DELIVERED TO ANY OTHER PARTY LINDER AN ACCEPTANT OF SALE LEAGE OF LEAGE O |
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| IN X IN ADDITION TO THE REQUIREMENTS OF 21 CEW 1040-10 (N) THE TROUBLE CEREVON OF A AND PROPERTY HIS IT ONCO |
| MANUFACTURES TO ALIAMIT THE SECTION INTO ANY LANER LIGHT SHOWS. |
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| K. X THE REQUIREMENTS OF 21 CPP 4002 % (N/A) AND (9) MID IN A COCCUPATION OF THE VOIL OF THE VOIL OF THE COCCUPATION OF THE COC |
| TANDARD INCTUITING AND |
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| WILL BE MADE AVAILABLE FOR INDEPENDENT STATES AND MEDICAL PROPERTY OF A STATE |
| FLINM PILE XIS AVAILABLE FOR INGPECTION BY POA AND OTHER RESPONSIBLE AUTHORITIES |

ИВ-08 8470667377

- I. X. ADVANCE WRITTEN NOTIFICATION WILL BE MADE AN EARLY AS POSSIBLE TO APPROPRIATE FEDERAL, STATE AND LOCAL AUTHORITIES PROVIDING GROW ITINITIALLY WITH DATES AND LOCATIONS CLEARLY AND COMPLETELY. DENTIFIED, AND A BASIC DESCRIPTION OF PROPOSED EFFECTS INCLUDING A STATEMENT OF THE MAXIMUM POWER OUTPUT INTENDED. GUGIL NOTIFICATIONS WILL BE MADE, BUT NOT NECESSARILY LIMITED TO:
 - (1) THE CENTER FOR DEVICES AND RADIOLOGICAL HEALTH, OFFICE OF COMPLIANCE (HFZ 312),2008 CAITHER ROAD, ROCKVILLE, MID BORROWSHING THE INITIAL AND SESSION DEVICES OF EACH SHOW HAVE BEEN REPORTED AND THE PHILIPMENT FOR MORILE AND WE IN ADDITION, UNLESS ALL ASPECTS OF EACH SHOW HAVE BEEN REPORTED AND THE ACCESSION NUMBERS CLEARLY REFERENCED, EACH NOTICE WILL INCLUDE DETAILED DESCRIPTIONS OF EACH SHOW AND A LISTING OF ALL EFFECTS TO BE PERFORMED IN SUFFICIENT DETAIL TO CONFIRM COMPLIANCE WITH THE REGULATIONS AND THIS VARIANCE.
 - (2) THE FEDERAL AVIATION ADMINISTRATION (FAA) FOR ANY PROJECTIONS INTO OPEN AIRSPACE AT AIRY TIME (I.E., INCLUDING SET-UP, ALIGNMENT, REHEARSALE, PERFORMANCEE, ETC.) IF THE FAA OILIECTS TO ANY LASER EFFECTS, THE OBJECTIONS WILL BE RECOLUDE AND IN CONDITIONS CAN NOT DE MET THE OBJECTIONABLE EFFECTS WILL BE DECIDINABLE EFFECTS WILL BE DECIDINABLE EFFECTS.
 - (3) STATE AND LOCAL RADIATION CONTROL OFFICES/ACENCIES FOR ALL GOWG TO BE PERFORMED WITHIN THEIR JURISDICTIONS ALL REQUIREMENTS OF STATE AND LOCAL LAW WILL BE SATISFIED AND ANY OBJECTIONS KAISED BY LOCAL AUTHORITIES WILL HE RESOLVED OR THE EFFECTS DELETED, (LISTS OF FEDERAL AND STATE OFFICES ARE AVAILABLE FROM THE CENTER FOR DEVICES AND RADIOLOCICAL HEALTH UPON REQUIECT.)

14. REMARKS

CERTIFICATION

I CERTIFY that all of the above information and statements are true, complete and correct to the boot of my knowledge and actorowiedge that my variance application has be denied or my variance may be revoked if this application is round to be tales, mich ading or incorrect in any material way. I have submitted/will submit all reports required by 21 CFR 1002.12 on the laser equipment and J how(s). I further understand, that I may be required by regulation or by the Director, Bureau of Rediological Health to supply such other information that i may be necessary to evaluate and act on this application.

15. SIGNATURE

16. NAME (Type or Print)

Rick Harrington

17. TITLE

Manager

REPORT ON LASER LIGHT SHOW OR DISPLAY

PART 1

IDENTIFICATION OF MANUFACTURERS

| 1.1 | Manufacturer | |
|-----|-------------------------------------|---|
| | a. Name of light show manufacturer. | Lower Products Delplopment, Inc |
| | b. Address: | P.O. BOX 446 Marysville, WA 98270-0446 |
| | c. Area Code and telephone: | 5 743-2 <i>99</i> 3 |

- 1.2 Importer (If applicable)
 - a. Name of Importer:
 - b. Address: Street

City

State

Zip Code

- c. Area code and telephone
- 1.3 Name, signature, and title of person preparing this report

a. Name:

b. Signature:

c. Title:

manager

^{*} Information on laser projectors is to be submitted using "Guide for Preparing Initial Reports and Model Change Reports on Lasers and Products Containing Lasers, " HHS Publication FDA 86-8259.

IDENTIFICATION OF REPORT

| 2.1 | is this report pursuant to paragraph (c) of 21 CFR 1002.61? |
|---------------|---|
| | (X) Yes () No |
| 2.2 | This report is |
| | (X) an initial report |
| | () a model change report |
| | () a supplemental report |
| 2.3 report | If this is a supplemental report, give CDRH accession number and date of the initial or model change that it supplements. |
| | Accession number: |
| | Date: |
| 2.4 | Date of this report: 8/8/0> |

PART 3 SHOW NAME

3.1 What is (are) the name(s) of the light show or display?

Cosmic Bowling

PART 4 **VARIANCE**

4.1 Attach a copy of your variance application (FDA Form 3147) or, if approved, your variance approval letter (or variance number).

PART 5 PROJECTION EQUIPMENT

5 1 Het each projector used in the light show by manufacturer, model number or other designation, and CDRH accession number for the projector If known.

Manufacturer

Model or designation

CDRH accession number

MOBOLAZER

MOBOLAZER ML10

92V-0286

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PART 6

SHOW VENUE

| 6.1 | The laser light show or display takes place in: |
|-----|--|
| | () Planetarium or other dome projection structure |
| | () Theater |
| | () Hotel/Motel ballroom or meeting room |
| | () Store displays |
| | () Trade show or convention |
| | () Discotheque or nightclub |
| | () Pavilion |
| | () Indoor arena |
| | () Outdoor arena |
| | () Museum |
| | () Outdoor unenclosed area |
| | (X) Other (specify) Bowling Center (over lancr) |
| 6.2 | The laser light show or display takes place: |
| | (X) at only one (fixed) location |
| | () at a variety of (tour) location |
| | () other (specify) |

SHOW LOCATIONS, DATES, TIMES

7.1 Give specific location(s), date(s), and time(s) for the show, if known.*

Every Friday and Saturday Nights at Ipm

PART 8

LIGHT SHOW EFFECTS PRODUCED

| 8.1 | The laser light show uses the following laser effects: | | |
|-----|---|--|--|
| | Xfront screen projections | | |
| | | | |
| | holographic displays | | |
| | | | |
| | audience scanning, including scanning any accessible, uncontrolled areas | | |
| | Xreflections from stationary mirrors or mirrored surfaces | | |
| | Xstationary irradiation of rotating mirror balls or other mirrored shapes | | |
| | Xscanning irradiation of rotating mirror balls, etc. | | |
| | Xfiber optic projections | | |
| | Xfog, smoke, or other scattering effects | | |
| | other (specify) | | |

see footnote 1 at the end of this Guide

DIAGRAMS AND DRAWING OF SHOW VENUE

9.1 Provide both plan and elevation drawings with dimensions of the show or display. If the setup varies from show to show, then provide this information for a typical show. Include in the drawings the location of the projector(s) and control panel(s), audience, performer(s), operator(s), mirror pails, display screens (or other targets), and beam termination points.

Show the direct and reflected laser radiation beam paths. Provide the laser radiation levels in each beam including the wavelengths, peak and average power, and scan parameters (if scanned) for the worst case from a human access point of view. Be sure the drawings indicate the minimum separations of the laser radiation fields (or beams) from reference locations in audience and performer areas in both vertical and horizontal directions, and any direct or reflected beams into audience or performer locations.

| Drawings attached? | (Y) Vec | / \ No | (If "No." explain | a why) |
|--------------------|---------|--------|-------------------|--------|
| DIAMINOS AUSCHAG! | (A) TES | () NO | (II NO. EXDIZII | I WILL |

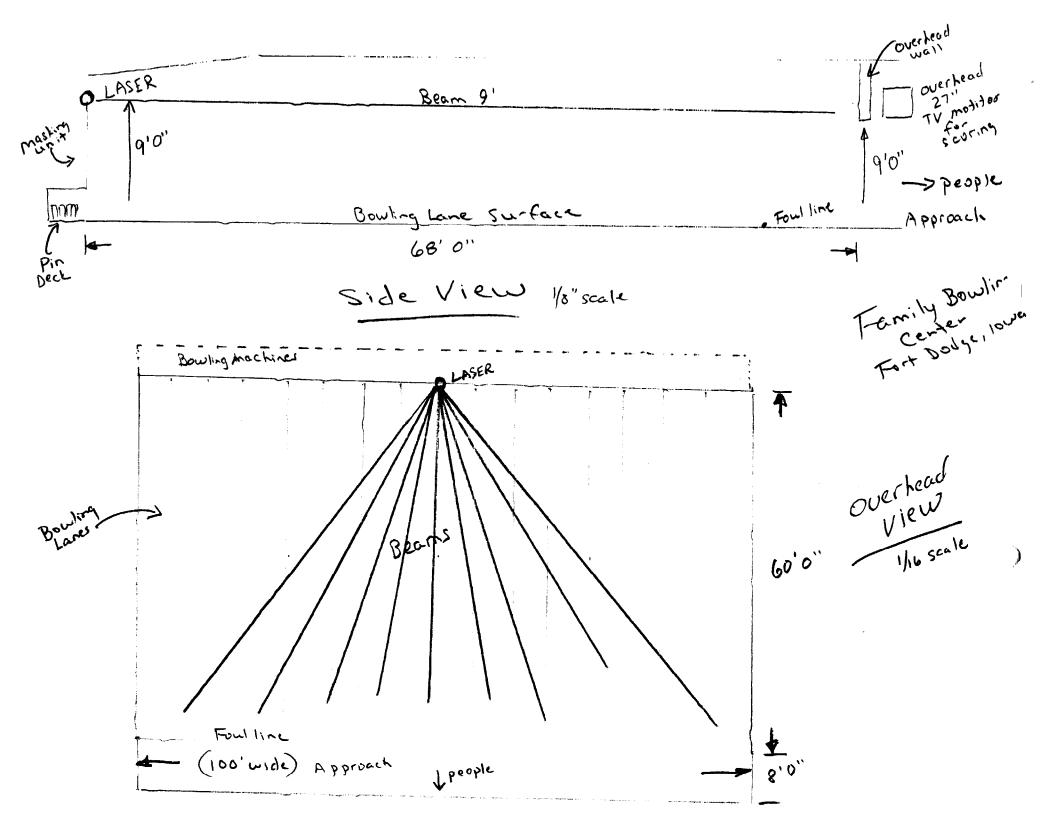
PART 10

LASER RADIATION LEVELS

| Describe how each of the laser radiation levels, indicated above, were determined. If any | levels |
|---|--------|
| were derived from calculations rather than directly measured, provide the actual calculation that | were |
| made. | |

Description and calculations enclosed? () Yes (X) No

Assuming the mirrors are 100% reflective, then theoretically the effects produced would be at the same level as the laser being used which could range from 30mW to 1 Watt.



SCANNING SAFEGUARDS

| 11.1 | Will there be aud | ence scanning* from any of the planned effects? |
|------|--|--|
| | () Yes | (X)No |
| 11.2 | Do any of the pla employees? | aned effects require laser radiation to be viewed by operators, performers, or |
| | () Yes | (X) No |
| | audience areas a your description | ther of the above questions is yes, describe how the radiation levels that reach into e-maintained within the limits of Class I. If Class I limits are maintained by scanning nust include details of the required scan failure safeguard, including a discussion of ction of the scanning, the theory of the operation of the scanning safeguard, and its scanning safeguard. |
| | Description attac | ed? () Yes () No (If "No," explain why) |
| | | |
| 11.3 | Will any laser rac or other employe | ation greater than Class (STRIKE BUT NOT BE VIEWED by operators, performers, s? |
| | () Yes | (X) No |
| | prevent exposure detection of scan | In detail, the operation of the scan failure safeguard or other means which will to beams exceeding Class II. If a scan safeguard is used, include a discussion of the ing, the theory of operation, and the speed of response of the safeguard. If other uch as pressure pads or infrared beams, describe in detail as well. |
| | Description attack | ed? () Yes () No (If "No," explain why) |

^{*} see footnote 2 at the end of this Guide

OPERATOR CONTROLS

| 12.1 | Is the show under | the continuous control of an operator? |
|------|--|---|
| | (X)Yes | () No |
| 12.2 | Does the laser op | erator perform tasks in addition to operation of the laser projector? |
| | (χ) Yes | () No |
| | (If "Yes," describe | those tasks) operator also is the D.I. operator other lights and music |
| 12.3 | Can the operator during the perform | see all the propagating beam paths, their terminations, and the audience at all times nance? |
| | (X)Yes |)No (If "No,"explain how adequate surveillance is provided)? |
| 12.4 | Do any other pers | onnel assist in providing surveillance of the laser display? |
| | (X) Yes | () No |
| | if "Yes," state the surveillance. 2 | number of persons, their identification, and now they assist in providing others menitor lane ejerations (1) counter person (2) Floor person led? (X) Yes () No (If "No," explain why) |
| | Information attack | med? (X) Yes () No (If "No," explain why) mployees watch for lane malfunctions and sefety guidelines as announced before each show |
| 12.5 | They must attend show and most im concerning lasers of six hour interns | s are required of laser operators for your show?* an introductory training class where they learn about the system, how to set up a portant, they learn about safety. They are also given copies of the CDRH regulations. We also provide monthly refresher courses. They are required to serve a minimum hip as an assistant to a qualified operator. I train to these qualified contactions. |

^{*} see footnote 3 at the end of this Guide

OPERATOR CONTROLS (Continued)

| 12.6 | If your show is not under the continuous control of an operator, is a person designated to be responsible for the immediate termination of the laser radiation in the event of equipment malfunction, audience unruliness, or other unsafe conditions? |
|------|---|
| | () Yes () No (X) Not applicable |
| | (If "No," explain alternate control) |
| 12.7 | How is this person designated? What are his or her other duties? |
| 12.8 | What qualifications are required of this person? |
| | PART 13 PROJECTION EQUIPMENT CONTROLS |
| 13.1 | Are one or more readily accessible controls provided to immediately terminate leser radiation? |
| | (X) Yes () No |
| | Number of controls: 2 One remote interlock |
| 13.2 | Describe the location of these controls and their operation relative to your show. |
| | The laser projector is equipped with a remote interlock, which has a key switch to terminate laser emission upon removal of the key or if the remote interlock is disconnected from the projector. The remote interlock is located next to the laser projector control board and can be accessed immediately. |
| | (1) rocker electrical switch to turn power on and off |
| | Q) remote intulact switch |
| | Both located in close proximity (3) key switch at unit itself accessable by mechanic on duty from the mechanic area of bowling center |

TEST PROCEDURES

| 14.1 | Attach a copy of the written setup, alignment, and test procedures to be followed prior to the operation of the laser light show at each location (see sample checklist for laser light shows in Appendix). |
|------|---|
| | Procedures attached? (X) Yes () No (If "No," explain why: |
| 14.2 | When are these setup, alignment, and test procedures performed? The ming of each Shew Prior to the establishment opening for business, when no patrons are present. |
| 14.3 | What laser radiation levels are used during setup, alignment, and checkout? 30 - 40 milliwatts |
| 14.4 | Is a record of the results of the setup, alignment, and test procedures maintained? |
| | (X) Yes () No |
| | If "No," explain how adequate quality assurance is maintained. |
| | |
| | NOTE: Adequate recordkeeping would include, but not be limited to: (1) sketches showing the location of the laser projector(s), operator(s), performer(s), audience, beam paths, viewing screens, wall mirrors. |

mirror balls, and other surfaces that may be struck by the laser beams; (2) information on scanning

patterns, velocity, and frequency; and (3) laser radiation levels used in each effect.

NOTIFICATION PROCEDURES

| 15.1 | What procedures are followed for notification of appropriate Federal (CDRH, FAA), State, and local agencies? | | | | | | | | | | | |
|------|---|--|--|--|--|--|--|--|--|--|--|--|
| | A show notification letter will be sent to the CDRH and State Radiological Health Branch 30 days prior to commencement of the show. | | | | | | | | | | | |
| | Procedures and/or form letters attached? (X)Yes ()No (If "No," explain why) | | | | | | | | | | | |
| 15.2 | What Federal, State, or local agencies are notified or would be notified? | | | | | | | | | | | |
| | List of agencies attached: (X) Yes () No (If "No," explain why) | | | | | | | | | | | |

Center for Devices and Radiological Health Office of Compliance Attn: EPRC, HF2-312 2098 Gaither Road Rockville, Maryland 20850

Phone: (301) 594-4654 FAX: (301) 594-4672

FOOTNOTES

1. Show notification:

Provide the location(s), date(s), and time(s) for this show if this information is known at the time this report is submitted. If not, advanced written notification must be made as early as possible to appropriate Federal. State, and local authorities. To be considered timely, this written notice must be subtritted 30 days prior to the opening of the show. When the show dates become knows to the manufacturer less than 30 days prior to the show date, the required information must be provided verbally by phone to CDRH. A confirming formal written notice, including the date of the phone notification and the name of the CDRH individual to whom the information was given must be submitted to CDRH within 14 days.

CDRH must be notified of every show that your firm intends to produce. If notifications are not routinely received in a timely manner your variance may be revoked.

2. Audience scannina:

Audience ecanning is considered any direct or reflected beams or levels of radiation exceeding Class I reaching areas in which the audience is permitted. Scattered radiation coming from diffuse reflectors such as fog, smoke, mist or similar diffusing media is not considered audience scanning. However, this scattered radiation must also be below Class I levels if it reaches into audience areas. A scanning safeguard is required whenever a laser light show includes audience scanning.

3. Qualifications:

Holders of variances are required by the variance to employ trained operators or to assure that the operators receive adequate training to qualify them for the safe use of the laser projection system and presentation of the light show effects. Useful information, training films, reference books, and programs on the safe use of lasers may be obtained from the Laser Institute of America (LIA) 5151 Monroe Street, Toledo, Ohio 43623; and from the American National Standards Institute, 1430 Broadway, New York, New York, 10018 (request ANS) Standard 2136.1).

LASER SHOW CHECKLIST AND DOCUMENTATION

All items must be brought to a satisfactory state before being checked off

| A . | DEN | MIFI | CAT | FION |
|------------|-----|------|-----|-------------|
| ~ . | | | | |

- 1. Name of show:
- Location of show:
- 3. Date(s) and time(s) of show:
- 4. Operator responsible for safety of show:
- 5. Manufacturer of the laser show projector / display devise:

MOBOLAZER, Inc. 790 Hampshire Road, Unit D Thousand Oaks, California 91341 (805) 230-2166

EQUIPMENT CHECKS B.

- ٦. Are all:protective housings in place with tight fit?
- 2. Is the projector secured rigidly in place?
- 3. Before activating the laser, check that all beam shutters are operable and are left in the closed positions.
- 4. Make sure that the laser cannot be energized without the key and that the key removal terminates operation.
- 5. Check that all accessory optics such as mirrors and targets are secured firmly in place.
- 6. Energize the laser at the lowest possible power (without allowing the laser light to emerge and with shutters closed).
- 7. Confirm that all emission indicators and the emission delay operated property.

| 8. | Verify that all required labels are in place and visible on the projecto | | | | | | | | |
|----|--|--|--|--|--|--|--|--|--|
| | { |) Cartification (Front lower right side of projector) | | | | | | | |
| | (|) Identification (Front lower left side of projector) | | | | | | | |
| | { |) Aperture (Top rail of projector) | | | | | | | |
| | (|) Non-interlocked (Front and side panels of projector) | | | | | | | |
| | (|) Warning logotype (Front upper right side of projector) | | | | | | | |
| | | | | | | | | | |

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reser and a Crecialty stid recommendation. Links

C. ALIGNMENT CHECKS

- 1. Evacuate all but essential personnel from facility. These checks must be performed with no audience present.
- 2. Make sure you have visual control of the entire projection space from your operating location (especially the audience space) and that groos are adequately secured (see the current ANSI 7136.1 standard for guidance).
- Operate the laser at the lowest possible power, open shutters, and perform alignments.
- 4. Perform physical survey to confirm that bearns exceeding Class I will be separated from the audience by the minimum distances required. (In general, for shows under operator control, a 3 meter vertical separation and a 2.5 meter horizontal separation from audience locations are required. For shows not under continuous operator control, a 6 meter vertical and 2.5 meter horizontal separation would be required.)
- 5. Review your proposed projections with venue management to be certain that the audience will not be permitted access to locations resulting in a violation of item 4 above.
- 6. Operate the projector at the power required by the show, making sure that there are no spurious projections into unintended areas and that the conditions of term 4 above are maintained. Determine and record the power levels in accordance with the levels reported in Part 9 of your laser light show report.
- 7. Confirm that all projectors and optics are rigidly secured and cannot be disturbed during subsequent operations or during the show itself.

| В. | Check for operation and proper setting of all devices related to safety, including |
|----|--|
| | () beam blocks |
| | () scanning safeguards |
| | () emergency stop controls |
| | |

9. Maintain continuous surveillance of the projectors and all optics between the times of alignment and the show to be certain that the alignment of the projector and optics is not disturbed.

Laser Show Checklist and Documentation Page 3

D. MEASUREMENT / PARAMETRIC CHECKS

- List the effects to be performed.
 - (a) Beams
 - (b) Linear Diffraction gratings
 - (c) Front Projections
 - (d)
 - (e)
- 2. For each effect, give, if applicable, time duration, intended and measured power in beams, scan frequency and amplitude, and identification of measuring instrument used.
 - (a) Beams < 2W
 - (b) Linear Diffraction gratings < 2W
 - (c) Front Projections < 2W, 0 to 300 Hz, 10 deg. vertical, 60 deg. horizontal
 - (d)
 - (e)

E. ADMINISTRATIVE CHECKS

- 1. List the name and title of the individual responsible for safety at the show facility:
- 2. List those agencies you have notified of your show. (a)Attach a copy of your notifications.
- 3. Attach plan and elevation drawings showing the locations of all projectors, external optics, projections, and audience.

NOTE: Safety considerations mundate that you account for all specular reflections and that the operator have visual control of all projections at all times.

LASER SAFETY TRAINING

Checklist

| Never scan audience with laser beams |
|--|
| Permit only authorized personnel to operate the lasers |
| Always keep laser beam path 3 meters above the ground |
| Do not permit tracking of vehicles or aircraft |
| Assure that individuals do not look into the laser beam |
| Do not aim laser beam at any mirror-like surfaces other than Mobolazer bounce mirror |
| Always keep laser located in well controlled area |
| Never attempt to service the laser yourself |
| Laser Operation Checklist has been delivered and operator(s) instructed on use |
| Laser Safety Guide delivered to operator(s) |
| The above laser safety information was provided to |
| on1997. |
| Acknowledged: |
| NAME OF RECEIPENT |
| |
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MOBOLAZER PROJECTOR PRE-PERFORMANCE CHECKLIST CDRH requires that all items be checked for compliance prior to every performance. These records are to be maintained for the duration of the installation.

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MARKETING INSIGHTS

